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CLAIMS

1. (Amended) A biological low-molecular-weight derivative obtained by modifying at least one carboxyl group of a biological low-molecular-weight compound, which is selected from the group consisting of malic acid, oxalacetic acid, citric acid, *cis*-aconitic acid, and derivatives thereof, has two or more carboxyl groups, and is in the citric acid cycle, with N-hydroxysuccinimide, N-hydroxysulfosuccinimide, or a derivative thereof, wherein the biological low-molecular-weight derivative undergoes hydrolyzation in vivo after application in vivo and reacts with a biological high-molecular-weight compound.

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4. (Amended) A crosslinked high-molecular-weight product obtained by crosslinking a high-molecular-weight compound with the biological low-molecular-weight derivative according to claim 1, the crosslinked high-molecular-weight product comprising a gel that is metabolized in vivo after application in vivo.

5. The crosslinked high-molecular-weight product according to claim 4, wherein the high-molecular-weight compound is at least one of proteins, glycosaminoglycans, chitosans, polyamino acids, and polyalcohols.

6. The crosslinked high-molecular-weight product according to claim 4, wherein the high-molecular-weight

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compound is a glycosaminoglycan comprising chondroitin sulfate, dermatan sulfate, hyaluronic acid, heparan sulfate, heparin, keratan sulfate, or a derivative thereof.

7. The crosslinked high-molecular-weight product according to claim 4, wherein the high-molecular-weight compound is a protein comprising collagen, atelocollagen, alkali-soluble collagen, gelatin, keratin, serum albumin, egg albumin, hemoglobin, casein, globulin, fibrinogen, or a derivative thereof.

8. (New) The crosslinked high-molecular-weight product according to claim 4, wherein the product is applied to one of biological adhesives, hemostatic agents, materials for embolizing blood vessels, and sealing materials for aneurysum to perform crosslinking reaction directly at affected sites.

9. (New) The crosslinked high-molecular-weight product according to claim 4, wherein the product is applied to one of adhesion preventing agents, scaffolds for tissue regeneration, and drug carriers after performance of crosslinking reaction.

10. (New) A method for producing the biological low-molecular-weight derivative according to claim 1, comprising reacting 0.001 to 10 percent by weight of a biological low-molecular-weight compound, which is selected from the group consisting of malic acid, oxalacetic acid, citric acid, *cis*-aconitic acid, 2-ketoglutaric acid, and derivatives thereof,

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has two or more carboxyl groups, and is in the citric acid cycle, with 0.001 to 10 percent by weight of N-hydroxysuccinimide, N-hydroxysulfosuccinimide, or a derivative thereof in the presence of 0.001 to 20 percent by weight of carbodiimide at a reaction temperature of 0°C to 100°C for a reaction time of 1 to 48 hours to modify at least one carboxyl group of the biological low-molecular-weight compound with N-hydroxysuccinimide, N-hydroxysulfosuccinimide, or a derivative thereof.

11. (New) A method for producing a crosslinked high-molecular-weight product comprising crosslinking a high-molecular-weight compound with a biological low-molecular-weight derivative obtained by the method according to claim 10 so as to yield a crosslinked high-molecular-weight compound comprising a gel that is metabolized in vivo after application in vivo.